

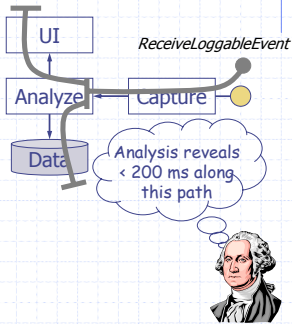
Quality Attributes: Use-case maps and Impact maps

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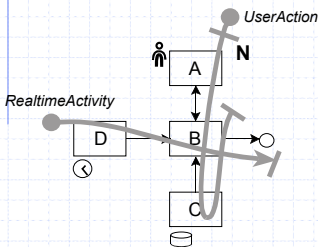
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Reasoning with use-case maps

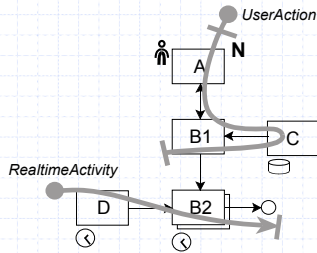
- ◆ System quality scenarios can (often) be mapped to the architecture
 - Reason about the behavior with respect to the desired quality



Highlight performance issues



Refactored



The component with a clash of performance requirements has been split into two. One has been replicated to allow for greater performance and scalability.

Maintainability

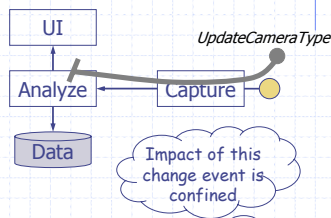
“Two trained sysadmins can update the configuration files for a new multi-server configuration, and perform initial smoke tests, within eight billable hours.”



Impact maps

◆ Architectural quality scenarios requires a new notation

- Reason about impact on different elements of the architecture



Exploring useability

◆ Custom Shooz

- Let's go back to the narrative...
- Useability requirements?
- Response times → Performance (another system/run-time quality)

Custom Shooz usability narrative

Elvis *plays around with the possibilities* by customising the basic design to suit his tastes. He doesn't want to place an order just yet, so he *adds his customised design to a wish-list* so he can access it next time he visits the site.

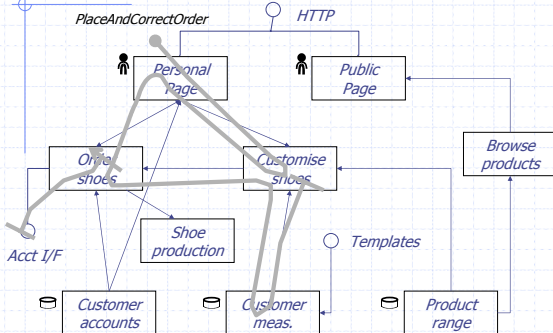
Ease of user experimentation

Next time he returns, after having sent off his measurement kit, he retrieves his customised design, makes a few changes, then proceeds to place a shoe order. He realises *part-way through* the ordering process, that he made a mistake with his shoe measurements. He quickly *corrects this*, and a minute later, is able to finalise his order.

User preferences
Memory
History

Rectify errors or make changes – local or global, current or historical

Use-case map – Useability



What about performance?

- ◆ "He *quickly* corrects this, and *a minute later*, is able to finalise his order."
- ◆ Concurrency view – what components will be affected? or need to support this
...

